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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/696,380	10/29/2003	Saravuth Sirinorakul	NSE009 US	6795
34036	7590	09/08/2005	EXAMINER	
SILICON VALLEY PATENT GROUP LLP 2350 MISSION COLLEGE BOULEVARD SUITE 360 SANTA CLARA, CA 95054			EVERHART, CARIDAD	
			ART UNIT	PAPER NUMBER
			2891	

DATE MAILED: 09/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/696,380	Applicant(s) SIRINORAKUL ET AL.	
	Examiner Caridad M. Everhart	Art Unit 2891	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4,5,9,10,19,20,22,23 and 27-34 is/are allowed.
- 6) ☒ Claim(s) 2,3,6-8 and 26 is/are rejected.
- 7) ☒ Claim(s) 11-18,21,24 and 25 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>6-24-05</u> | 6) <input type="checkbox"/> Other: _____ |

Applicant's arguments with respect to claims 1-3 and 6-8 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 2, 3, 6, and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Murakami, et al. (US 6,031,292).

Murakami et al discloses in Fig. 4 a semiconductor chip or die 2, a capsule enclosing the die 11, a plurality of metal studs which are flat on the bottom 12, a plurality of bonding wires 7, which connect the die to the studs and are in the encapsulant, and the studs comprise a first metal and a second metal on the first(col. 4, lines 56-67 and col. 5, lines 1-4). The disclosure that the studs are copper while the lands may be gold satisfies the limitation of a second metal on the first metal. There may be nickel on the studs(col. 6, lines 18-21). There is a second layer on the top of the studs may be gold or silver(col. 5, lines 40-45). The pads are arranged in rows as seen in Fig. 4, and the rows are on one side, that is the bottom of the chip surface, which satisfies the limitation of the studs being on one side of the chip.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Murakami et al as applied to claim 2 above.

Murakami et al is silent with respect to the studs being in one row.

It would have been obvious to one of ordinary skill in the art to have used one row of studs because the number of rows is a variable of the art which one of ordinary skill in the art would be able to determine.

Claim 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murakami et al as applied to claim 1 above, and further in view of Zalesinski, et al (US 5,567,984).

Murakami et al is silent with respect to the studs being attached to the chip.

Zalesinski et al is relied upon for its teaching of the studs being attached to the chip(Fig. 4 and col. 2,lines 47-50 and col. 3, lines 15-17 and col. 2, lines 49-50).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have combined the teaching of Murakami et al with the teaching of Zalesinski et al because the location of the studs such that they are attached to the chip would provide a more compact package.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Caridad M. Everhart whose telephone number is 571-


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272-1892. The examiner can normally be reached on Monday through Fridays 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, B. Baumeister can be reached on 571-272-1722. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

C. Everhart
9-6-2005


CARIDAD EVERHART
PRIMARY EXAMINER